Extron® Electronics
INTERFACING, SWITCHING AND DISTRIBUTION

User's Manual



DVI-RGB 150

DVI to Analog RGB Video Interface

68-1247-01 **Rev. A**
07 06

www.extron.com

Extron Electronics, USA
1230 South Lewis Street
Anaheim, CA 92805
USA
714.491.1500
Fax 714.491.1517

Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort
The Netherlands
+31.33.453.4040
Fax +31.33.453.4050

Extron Electronics, Asia
135 Joo Seng Road, #04-01
PM Industrial Building
Singapore 368363
+65.6383.4400
Fax +65.6383.4664

Extron Electronics, Japan
Kyodo Building
16 Ichibancho
Chiyoda-ku, Tokyo 102-0082 Japan
+81.3.3511.7655
Fax +81.3.3511.7656

Precautions

Safety Instructions • English

This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français

Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).

Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions• Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conserver les instructions• Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Eviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch

Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español

Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.

Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean especificamente recomendados por el fabricante, ya que podrian implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentations• Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation• Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Litium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalientamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: These units was tested with shielded cables on the peripheral devices and between the transmitter and receiver. Shielded cables must be used with the units to ensure compliance.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:

Extron Electronics
1001 East Ball Road
Anaheim, CA 92805, USA

Europe, Africa, and the Middle East:

Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort
The Netherlands

Asia:
Extron Electronics, Asia
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363

Japan:
Extron Electronics, Japan
Kyodo Building
16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

安全须知 • 中文

这个符号提示用户该设备用户手册中的操作和维护说明。

这个符号警告用户该设备机壳内暴露的危险电压，有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解有安全和使用说明。

保存说明书 • 用户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

警告

电源 • 该设备只能使用产品上标明的电源。 设备必用有地线供电系统供电。第三条线（地线）是安设施，不能不用或跳过。

拔掉电源 • 为安全地从设备拔掉电源，请拔掉所有备后或桌面电源的电源线，或任何接到市电系统电源线。

电源线保护 • 妥善布线， 避免被踩踏，或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。 设备部没有用户可以更换的零件。为避免出现触电危不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔，它们是用防止机内敏感元件过热。不要用任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使与厂家推荐的相同或相近型号的电池。按照生产厂的议处理废弃电池。

68-1247-01 **Rev. A**
07 06

1

Chapter One

Introduction

The Extron DVI-RGB 150 DVI to analog RGB video interface converts DVI digital video to analog RGB video. The interface accepts a single link of digital-only Digital Visual Interface (DVI-D) video from a computer, or other digital video source device, on a standard 29-pin female DVI-I connector. The interface outputs analog RGBHV, RGBS, or RGsB video on female BNC connectors. The interface also buffers the DVI input and loops it through on a DVI connector for use by a local monitor (figure 1-1).

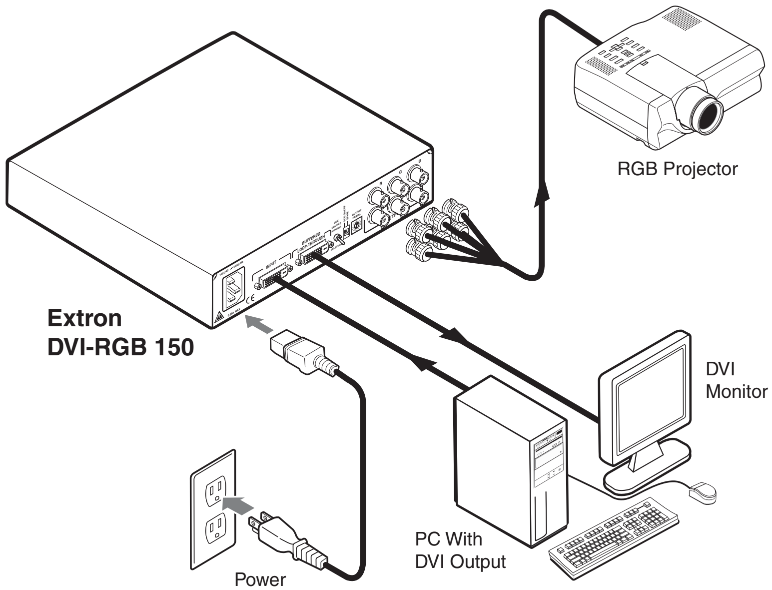


Figure 1-1 — Typical DVI-RGB 150 application

The video source uses the bidirectional Display Data Channel (DDC) to determine the video resolution and refresh rate. The video source can obtain the rate directly from the local monitor or the user can select among 32 resolutions and refresh rates built into the interface.

Level and peaking adjustments allow the user to enhance the RGB video output for transmission across long distances.

The DVI-RGB 150 is rack mountable and has an internal switching power supply for worldwide power compatibility.

DVI-RGB 150

2

Chapter Two

Installation and Operation

Installation Overview

Mounting the Interface

Rear Panel Connections and Controls

Front Panel Controls and Indicator

Operation

DVI Connector Pin Assignments

Installation Overview

To install and set up an Extron DVI-RGB 150 for operation, follow these steps:

1 Turn off all of the equipment. Ensure that the video sources and the output display are all turned off and disconnected from the power source.

2 Mount the interface. See *Mounting the Interface*, below.

3 Connect the cables. See *Rear Panel Connections and Controls* in this chapter.

4 Plug in the power supply, then turn on the display devices and the input devices.

5 Set the level and peaking. See *Front Panel Controls and Indicator*, on page 2-8.

Mounting the Interface

CAUTION *Installation and service must be performed by authorized personnel only.*

The 1" high, quarter-rack width interface can be placed on a tabletop, mounted on a rack shelf, mounted under a desk or tabletop, or mounted through a desk.

Tabletop placement

Affix the four included rubber feet to the bottom of the unit and place it in any convenient location.

Rack mounting

For optional rack mounting, mount the interface on any of the following rack shelves:

- RSU 126 6" 1U deep universal rack shelf kit (part **#60-190-10**) (figure 2-1)
- RSB 126 6" 1U deep basic rack shelf (part **#60-604-10**)
- RSU 129 9" 1U universal rack shelf kit (part **#60-190-01**) (figure 2-2)
- RSB 129 9" 1U basic rack shelf (part **#60-604-01**)

The interface can be mounted in the front or the rear of the full-size (non-6") rack shelves.

1. If installed, remove the feet from the bottom of the unit.
2. Mount the interface using two 4-40 x 3/16" screws in opposite (diagonal) corners to secure the unit to the shelf.
3. Install false faceplate(s) or other unit(s) to the rack shelf.

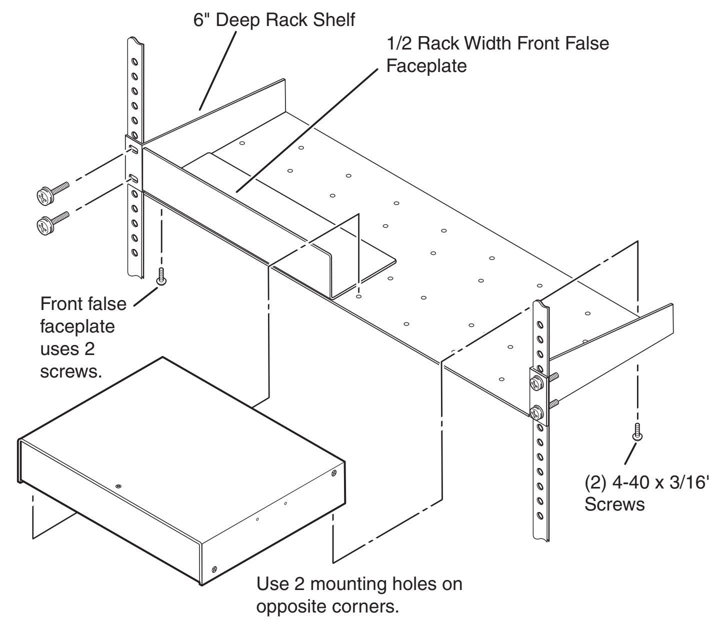


Figure 2-1 — Mounting the unit on a 6-inch rack shelf

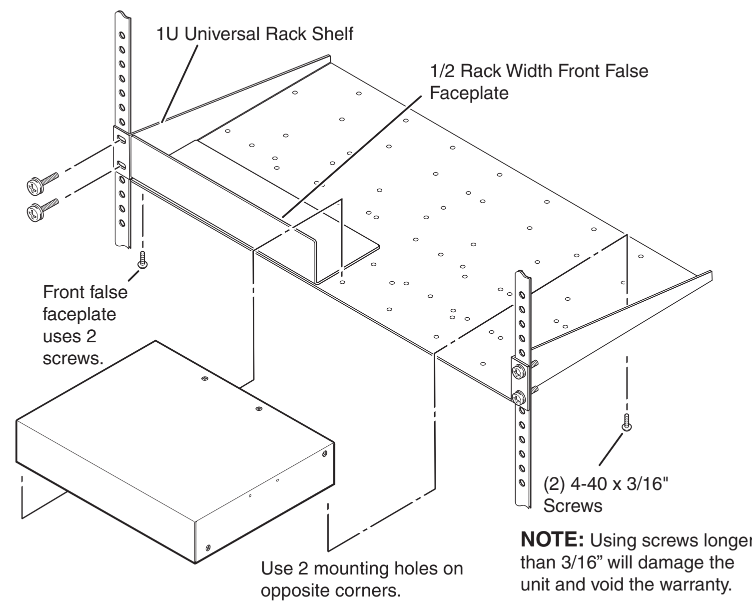


Figure 2-2 — Mounting the unit on a standard rack shelf

Under-desk mounting

Mount the unit under a desk or podium using the optional Extron MBU 125 under desk mounting kit (part #**70-077-01**) as follows:

1. If rubber feet were previously installed on the bottom of the unit, remove them.

2. Attach the mounting brackets to the interface with the machine screws provided (figure 2-3).

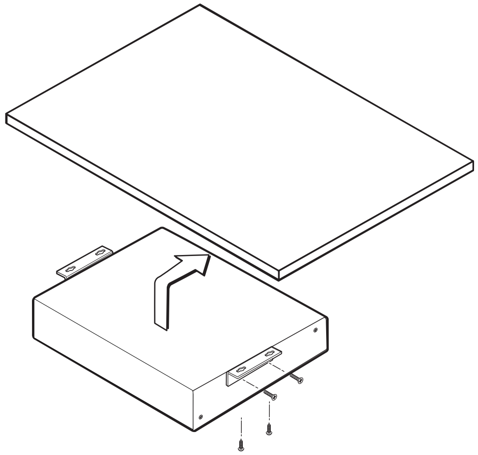


Figure 2-3 — Under-desk mounting the interface

3. Hold the unit with the brackets attached against the underside of the table or other furniture. Mark the location of the screw holes of the bracket on the mounting surface.

4. Drill four pilot holes, each 3/32" (2 mm) in diameter by 1/4" deep (6.3 mm) deep in the mounting surface at the marked screw locations.

5. Insert #8 wood screws into the four pilot holes. Tighten each screw into the mounting surface until just less than 1/4" (6.3 mm) of the screw head protrudes.

6. Align the mounting screws with the slots in the brackets and place the unit against the surface, with the screws through the bracket slots.

7. Slide the unit slightly in or out, then tighten all four screws to secure the unit in place (figure 2-3).

Through-desk mounting

Mount the unit through a desk or podium using the optional Extron MBD 129 through desk mounting kit (part #**70-077-02**) as follows:

1. If rubber feet were previously installed on the bottom of the unit, remove them.

2. Secure the brackets to the interface with the provided machine screws (figure 2-4). Leave the screws slightly loose.

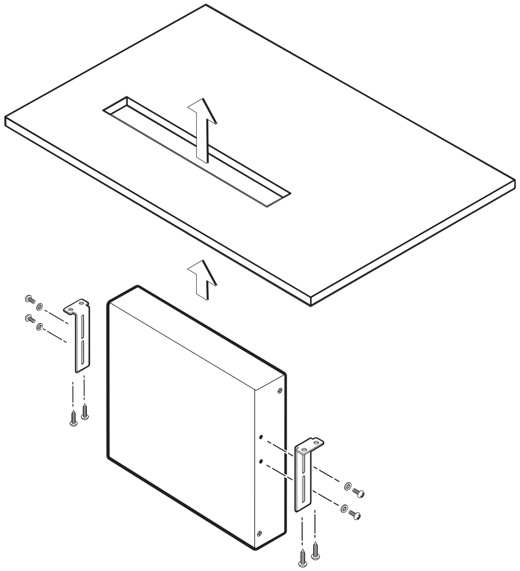


Figure 2-4 — Through-desk mounting the interface

3. Hold the interface and brackets on the underside of the surface to which you are mounting the device and mark the four screw holes and the table material to be removed.

4. Remove the table material. Test the fit by inserting the front of the device through the hole. If necessary, use a rasp or coarse file to enlarge the hole.

5. Drill four pilot holes, each 3/32" (2 mm) in diameter by 1/4" deep (6.3 mm) deep , as marked on the template.

6. Using the four wood screws provided, attach the brackets to the mounting surface.

7. Slide the device in or out until it is in the desired position. Tighten the screws installed in step **2**.

   If the screws are inaccessible to a screwdriver:

   a. Mark the location of the brackets relative to the screws.

   b. Remove the transmitter or receiver from inside the furniture.

   c. Tighten the screws.

   d. Replace the unit inside the surface (step **6**).

Rear Panel Connections and Controls

① **Input connector** — Connect a single link of direct digital video to this 25-pin DVI-D connector (figure 2-5) using the included cable.

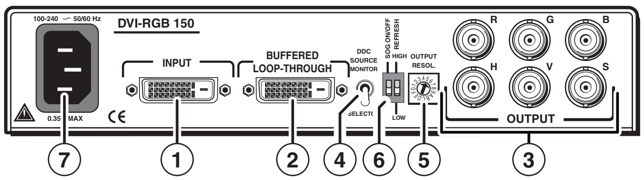
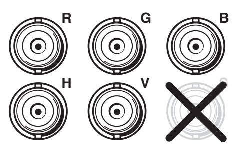


Figure 2-5 — DVI-RGB 150 rear panel

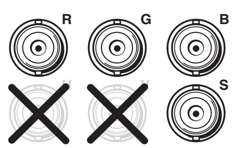
② **Buffered Loop-through connector** — If desired, connect a direct digital local monitor to this 25-pin DVI-D connector.

③ **Output connectors —** Connect an RGB display to these female BNC connectors.

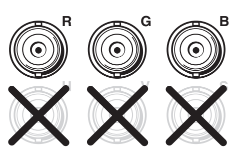
For RGBHV video — Connect to five BNC connectors as shown at right. Ensure that the SOG On/Off switch (⑥) is turned off.



For RGBS video — Connect to four BNC connectors as shown at right. Ensure that the SOG On/Off switch (⑥) is turned off.



For RGsB video — Connect to three BNC connectors as shown at right. Ensure that the SOG On/Off switch (⑥) is turned on.



④ **DDC Source switch —** Set this switch to the Monitor (**up**) position to connect the DDC channel between the direct digital video source and the local monitor.



Set this switch to the Selector (**down**) position to connect the DDC channel between the direct digital video source and the built-in DVI-RGB 150 DDC logic.

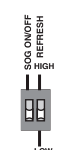
⑤ **Output Resolution rotary switch —** If the DDC Source switch (④) is in the Selector position, set this switch to the appropriate position to select the desired video resolution. Use the Refresh DIP switch (⑥) to select the refresh rate. The table below identifies the switch positions and the associated resolutions and vertical refresh rates.



Output Resol. Switch		Refresh DIP Switch	Output Resol. Switch		Refresh DIP Switch
Pos.	**Resolution**	▼ Dwn ▲ Up	**Pos.**	**Resolution**	▼ Dwn ▲ Up
0	640x480	60 Hz 75	8	1366x768	60 Hz 75
1	800x600	60 Hz 75	9	1400x1050	60 Hz 60
2	852x480	60 Hz 75	A	1600x1200	60 Hz 60
3	1024x768	60 Hz 75	B	480p	60 Hz 60
4	1024x852	60 Hz 75	C	576p	50 Hz 50
5	1280x768	60 Hz 75	D	720p	50 Hz 60
6	1280x1024	60 Hz 75	E	1080i	50 Hz 60
7	1365x768	60 Hz 75	F	1080p	50 Hz 60

NOTE *Many monitors will not support all of the resolutions and refresh rates shown. If you get no display, try a different rate.*

⑥ **SOG (Sync on Green) On/Off switch—** Set this switch to the On (**up**) position to enable SOG for RGsB video. Set this switch to the Off (**down**) position to disable SOG for RGBS or RGBHV video.



Refresh switch — If the DDC Source switch (④) is in the Selector position, set this switch either up or down to select the refresh rate of the selected output. See the table above.

⑦ **AC power connector —** Plug a standard IEC power cord into this connector to connect the interface to a 100 to 240VAC, 50 Hz or 60 Hz power source.

Front Panel Controls and Indicator

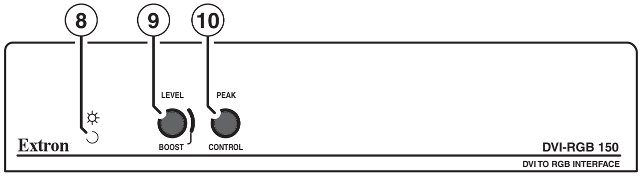


Figure 2-6 — DVI-RGB 150 front panel

⑧ **Power LED** — The two-tone Power LED lights yellow or green:

Yellow when the DVI-RGB 150 is receiving power but no DVI input signal is applied.

Green when the DVI-RGB 150 is receiving power and a DVI input is present.

⑨ **Level Boost control** — The Level Boost control alters the brightness of the picture on the RGB output. Judge the adjustment visually by looking at the display.

- At the minimum level setting (the counterclockwise limit of this control), the interface outputs video at 0.5 Vp-p.
- At the control's midpoint, the interface outputs video at 0.7 Vp-p (unity level).
- At the maximum level setting (the clockwise limit of this control), the interface outputs video at 1.45 Vp-p.

Select a level setting of 0.7 V and above to compensate for the signal level decrease that occurs with long cables. Set the level at the maximum setting for cable lengths over 500 feet.

NOTE *Level Boost has no affect on the DVI output of the Buffered Loop-through connector.*

⑩ **Peak(ing) control** — The Peaking control affects the sharpness of the picture on the RGB output. Increased peaking can compensate for detail (mid- and high-frequency) loss from low bandwidth system components or capacitance in long cables. The minimum setting (at the counterclockwise limit) provides no peaking. The maximum setting (at the clockwise limit) provides 100% peaking. Adjust this control while viewing the displayed image to obtain the optimum picture sharpness.

NOTE *Peaking has no affect on the DVI output of the Buffered Loop-through connector.*

Operation

After the DVI-RGB 150 and its connected devices are powered up, the system is fully operational. If any problems are encountered, verify that the cables are routed and connected properly.

NOTE **High-bandwidth Digital Content Protection (HDCP)** *is an encryption method that protects copyrighted digital entertainment material that uses DVI video.*

The DVI-RGB 150 ***cannot*** *respond to the HDCP decryption key.*

When the DVI input is HDCP encrypted, the DVI-RGB 150's RGB output is blank.

NOTE *The computer reads the DDC on power up to determine the direct digital video resolution and refresh rate to output. Ensure that the local DVI monitor and the RGBHV monitor can both display the selected resolution and refresh rate, otherwise images may be distorted or missing.*

NOTE *Ensure that the computer and local monitor are connected to the DVI-RGB 150, and the DVI-RGB 150 and local monitor have power applied, before applying power to the computer. If the other devices are not turned on before the computer is, the image will not appear.*

DVI Connector Pin Assignments

Figure 2-7 and the table below define the DVI pin assignments.

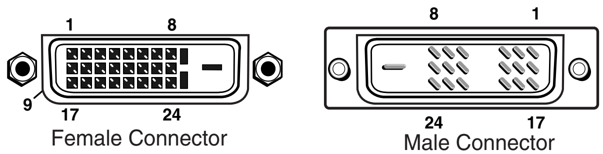


Figure 2-7 — DVI connectors

DVI signals run at a very high frequency and are especially prone to bad video connections, too many adapters, or excessive cable length. To avoid the loss of an image or jitter, follow these guidelines:

- Do not exceed 16.4 feet (5 meters) on the input or buffered loop-through of the interface.
- Use only the cable designed for DVI signals supplied by Extron.
- Limit or avoid the use of adapters.
- Use only approved DVI connectors.

CAUTION *Use only cables specifically intended for DVI interfaces. Use of non-DVI cables or modified cables can cause the DVI-RGB 150 to fail.*

NOTE *The missing connectors on the included DVI cable are not required for the single link of DVI-D data supported by the DVI-RGB 150. These pins are grayed out on the following table.*

Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock	14	+5 V Power	22	TMDS Clock Shield
7	DDC Data	15	Ground (+5 V)	23	TMDS Clock
8	No Connection	16	Hot Plug Detect	24	TMDS Clock

Appendix A

Reference Information

Specifications

Part Numbers

Reference Information

Specifications

Video

NOTE *The DVI-RGB 150 converts a single link DVI signal to an analog RGB signal.*

NOTE *Using an adaptor (the Extron HDMI to DVI-D adapter, part #26-616-01), the DVI-RGB 150 can accept HDMI signals. It converts HDMI digital RGB signals, but does not support the HDMI digital component (YCrCb) signal format.*

Video input and loop-through

Number/signal type.................... 1 single link DVI-D digital video input
1 single link DVI-D buffered loop-through
Connectors .... 1 DVI-D female (DVI input)
1 DVI-D female (DVI loop through)
TMDS nominal level.................... 0.4 V to 0.6 V swing
TMDS impedance .... 100 ohms
DC offset (max. allowable).......... ±0.5 V

Video output

Number/signal type.................... 1 RGBHV, RGBS, RGsB
Connectors .... 6 BNC female
Nominal level .... 0.7 Vp-p for RGB
Level adjustment range................ 0 dB to 6 dB (x1 to x2)
Peaking adjustment range .... 0 dB to 6 dB (x1 to x2) at 100 MHz
Impedance .... 75 ohms
Output resolution......................... Follows input, determined by the local DVI loop-through monitor or by the selector on this product.

Resolution selector resolutions and rates

Setting	Resolution	Refresh Low	Refresh High
0	640x480	60 Hz	75 Hz
1	800x600	60 Hz	75 Hz
2	852x480	60 Hz	75 Hz
3	1024x768	60 Hz	75 Hz
4	1024x852	60 Hz	75 Hz
5	1280x768	60 Hz	75 Hz
6	1280x1024	60 Hz	75 Hz
7	1365x768	60 Hz	75 Hz
8	1366x768	60 Hz	75 Hz
9	1400x1050	60 Hz	60 Hz
A	1600x1200	60 Hz	60 Hz
B	480p	60 Hz	60 Hz
C	576p	50 Hz	50 Hz
D	720p	50 Hz	60 Hz
E	1080i	50 Hz	60 Hz
F	1080p	50 Hz	60 Hz

Return loss .... -35 dB @ 5 MHz
DC offset .... ±5 mV maximum with input at 0 offset
Output cable driving distance..... 150’ (45 m) at 1600 x 1200 with Extron MHR cable
250’ (60 m) at 1024 x 768 with Extron MHR cable

Sync

Output type.................................. RGBHV, RGBS, RGsB
Output level .... TTL (5 Vp-p, unterminated)
Output impedance .... 75 ohms
Polarity.. Positive or negative (follows input)

General

Power .... 100 VAC to 240 VAC, 50/60 Hz, 25 watts, internal, autoswitchable.

Temperature/humidity .... Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing

Rack mount .... Yes, with an optional RSU 129 or RSB 129 1U rack shelf, part #60-190-01 or 60-604-01; or an RSU 126 or RSB 126 6" deep rack shelf, part #60-190-10 or 60-604-10;
Also furniture mountable with an optional MBU 125 under-desk mounting kit, #70-077-01 or an optional MBD 129 through-desk mounting kit, #70-077-02.

Enclosure type .... Metal

Enclosure dimensions .... 1.7" H x 8.7" W x 6.0" D
(1U high, half rack wide)
4.3 cm H x 22.1 cm W x 15.2 cm D
(Depth excludes connectors and knobs.)

Product weight .... 1.6 lbs (0.7 kg)

Shipping weight .... 4 lbs (2 kg)

Vibration .... ISTA 1A in carton
(International Safe Transit Association)

Listings .... UL, CUL

Compliances .... CE, FCC Class A, VCCI, AS/NZS, ICES

MTBF .... 30,000 hours

Warranty .... 3 years parts and labor

NOTE *All nominal levels are at ±10%.*

NOTE *Specifications are subject to change without notice.*

Part Numbers

Included Parts

These items are included in each order for a DVI-RGB 150:

Model and included parts	Part number
DVI-RGB 150	60-808-01
IEC power cord	
Tweeker (small screwdriver)	
User's guide	

Mounting accessories

Accessories	Part number
RSU 126 6" deep 1U universal rack shelf kit	60-190-10
RSB 126 6" deep 1U basic rack shelf	60-604-10
RSU 129 9" 1U universal rack shelf kit	60-190-01
RSB 129 9" 1U basic rack shelf	60-604-01
MBU 125 under-desk mounting kit	70-077-01
MBD 129 through-desk mounting kit	70-077-02

Cables/adapters

Accessories	Part number
DVID SL/6 DVI-D male-to-male, 6' (1.8 m) cable	26-585-02
HDMI M-M/6 HDMI male to male, 6' (1.8 m)	26-613-02
HDMI M-DVI-DM/6 HDMI male to DVI-D male, 6' (1.8 m)	26-614-02
BNC cable	26-383-xx
HDMIF-DVIDM HDMI female to DVI-D male adapter	26-616-01
HDMIM-DVIDF HDMI male to DVI-D female adapter	26-617-01